

**IN THE UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF ILLINOIS**

Sloan Valve Company,

Plaintiff

v.

Zurn Industries, Inc. and Zurn Industries, LLC,

Defendants.

Case No. 1:10-cv-00204

Judge: Hon. Amy J. St. Eve

**MEMORANDUM IN SUPPORT OF DEFENDANTS' DAUBERT MOTION TO
EXCLUDE PLAINTIFF'S COMPENSATORY DAMAGES EXPERT**

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I. INTRODUCTION

Sloan's compensatory damages expert, Richard Bero, intends to testify that Sloan is entitled to a per-unit royalty of [REDACTED] (or at least, [REDACTED] is Bero's most recent per-unit royalty – his opinion has “evolved,” i.e., changed, shifted, moved or otherwise been modified over the course of expert discovery and the two supplemental reports he prepared after disclosing his initial opinions). (Exh. A, pp. 2-3). He admits that Zurn's average profits per Accused Sale [REDACTED] and that at most [REDACTED]
[REDACTED]
[REDACTED] (*Id.* at 58, Table 14). Nevertheless, he opines Zurn would have agreed to pay [REDACTED]
[REDACTED]
[REDACTED] to Sloan in exchange for a license to practice the invention. Bero also admits that, had Sloan made the Accused Sales, Sloan would have received average per-unit profits of [REDACTED]. (*Id.* at 57, Table 12). But, he opines that Sloan would not have agreed to license Zurn to sell the Accused Products for anything less than [REDACTED] (*Id.*) In other words, Bero thinks his [REDACTED] [REDACTED] is a generous “compromise” from Sloan's perspective – a compromise to which Bero says Sloan would never agree in the real world.

Bero's opinion is absurd. Why would Zurn agree to a license that, by Bero's own calculation, deprives Zurn of [REDACTED]
[REDACTED] ? And, why would Sloan refuse to accept anything less than [REDACTED]
[REDACTED]

As a result, it is no surprise to learn that Bero's methodology is flawed as a matter of law.¹ He distorts and misapplies the established methodology for calculating a *reasonable* royalty to arrive at an opinion that awards Sloan more than Sloan could hope to recover if it had set out to prove lost profit damages, which Bero himself admits is [REDACTED] (Exh. B, 67:13-68:17). More specifically, Bero commits six critical mistakes, each of which independently renders his opinion inadmissible:

- (1) He fails to apportion the value of the Accused Products between the patented invention and unpatented features, and then fails to limit his per-unit royalty rate to the former;
- (2) He fails to present any of the detailed economic evidence that the Federal Circuit requires a patentee to show before it can invoke "the Entire Market Value Rule" exception to avoid this long-established, routinely-enforced apportionment requirement;
- (3) He includes in his per-unit royalty rate the lost profits attributable to unpatented collateral goods that are not functionally related to the patented invention, and were sold before or after, but not simultaneously with the Accused Sales;
- (4) He arbitrarily [REDACTED] the maximum royalty Zurn would pay and the minimum royalty Sloan would accept for a license to sell the Accused Products;
- (5) He fails to present any of the credible economic evidence of price elasticity the Federal Circuit requires a patentee to show before it can recover damages for price erosion; and
- (6) He opines that Sloan is entitled to lost profits in the form of price erosion damages during the provisional remedies period in direct contravention of 35 U.S.C. § 154(d)(1).

For each, or any of these reasons, Bero's opinions should be excluded under *Daubert v.*

Merrell Dow Pharmaceuticals, Inc., 509 U.S. 579, 113 S. Ct. 2786, 125 L. Ed. 2d 469 (1993)

¹ Because Bero's methodology has remained the same since he first disclosed his opinions, the methodological flaws addressed here apply even though Bero has changed the numbers in later supplemental reports, and regardless of which per-unit figure Bero ultimately settles upon.

and *Kumho Tire Co., Ltd. v. Carmichael*, 526 U.S. 137, 119 S. Ct. 1167, 143 L. Ed. 2d 238 (1999). As the Federal Judicial Center has observed: “No issue in a patent trial cries out for strict application of the gatekeeping tools of Fed. R. Evid. 702 and the Supreme Court’s *Daubert* decision more than damages.” Compensatory Damages Issues in Patent Infringement Cases, p. 28 (Fed. Judicial Center Bench Book, 2011). And, few damage expert opinions deserve to be kept out of the court room more than those Bero intends to offer.

II. SUMMARY OF BERO’S METHODOLOGY

Bero claims to base his [REDACTED] upon the hypothetical negotiation analysis described in *Georgia-Pacific Corp. v. U.S. Plywood Corp.*, 318 F. Supp. 1116 (S.D.N.Y. 1970). (Exh. A, p. 3; Exh. C, p. 41). In other words, Bero set out to determine the rate Sloan as a willing licensor would agree to accept, and Zurn as a willing licensee would agree to pay for a license to practice the patented invention (i.e., sell manual dual flush valves (MDF valves)). (Exh. C, p. 41).

Focusing first on Sloan as willing licensor, Bero opines that Sloan would not agree to license Zurn unless Sloan received a royalty accounting for [REDACTED]

(Exh. A, pp. 55-57, Tables 10-12; Exh. C, pp. 46-50, Tables 10-12). Bero sums these various lost profit figures and determines that Sloan would not agree to license Zurn to sell the Accused Products for any amount less than [REDACTED] (Exh. A, Table 10; Schedule 5).

Next, Bero turns to focus on Zurn as willing licensee to determine what Zurn would agree to pay for a license from Sloan. (Exh. A, pp. 57-58; Exh. C, pp. 50-52, Tables 10-12). Bero starts with the sensible assumption that Zurn would not agree to pay a royalty that exceeds the profits Zurn stood to make on the Accused Sales. (Exh. A, p. 57; Exh. C, p. 50). He then performs the same calculations he performs to determine Sloan's lost profits [REDACTED]

[REDACTED]

[REDACTED] this time using Zurn's profit margins. (Exh. A, Table 14,

² Bero does not rely on actual sales figures to quantify how many unpatented collateral products Sloan or Zurn would sell at the time of each Accused Sale because there are no comprehensive records demonstrating when end users buy such products. (Exh. C, p. 48). Instead, he estimates the number based on survey data developed by a company called Quest, hired by Sloan's attorneys after this lawsuit was filed for the purpose of creating evidence for Bero to use to calculate Sloan's lost profits on collateral sales. (*Id.* at 28). Because the survey is methodologically flawed in several critical respects, Bero's opinions based on the survey data should be excluded. However, the survey flaws, and Bero's reliance on the survey data are independent issues that are not the subject of Zurn's motion for summary judgment. Accordingly, Zurn has omitted the issues from in this brief to comply with the Court's April 18, 2013 Order regarding *Daubert* motions. Zurn expressly reserves the right to challenge the admissibility of the survey, Sloan's survey expert Leone Fosi, and Bero's opinions based on the survey, when the Court authorizes *Daubert* motions addressing issues unrelated to the summary judgment motions. Of course, granting the present motion to exclude Bero's opinions in their entirety will eliminate the need to address the flawed Quest survey.

Schedule 4.0). He concludes that Zurn would not be willing to pay more than [REDACTED] (Exh. A, p. 58).

The gap between the maximum Zurn will pay [REDACTED] and the minimum Sloan will accept [REDACTED] presents Bero with a serious problem because the hypothetical negotiation requires that the parties reach an agreement both would be willing to accept. (Exh. C, p. 41). Bero resolves the problem by abandoning his earlier opinions on the maximums and minimum amounts to which Zurn and Sloan would agree and arbitrarily [REDACTED] starting his analysis of the *Georgia-Pacific* factors with a per-unit royalty rate [REDACTED] (Exh. A, pp. 58-59). Ultimately, he concludes that this [REDACTED] starting value should be increased to [REDACTED] [REDACTED] after performing the same lost profit calculations for each year from 2006 through 2012 and determining that [REDACTED] [REDACTED] . (*Id.* at 59).

Because Bero reduces the rate on which Sloan would insist from [REDACTED] to force a compromise, Sloan loses the opportunity to recover some portion of its “price effect” damages in the form of a royalty. (Exh. C, p. 62; Exh. A, Schedules 3.0-3.2). Bero finds this unacceptable; so, he adds an additional price erosion component to his total damage figure. (See Exh. A, p. 4, Table 1). How he does so is immaterial for purposes of the present motion, but essentially involves arbitrarily assuming [REDACTED] [REDACTED]

(Exh. A, Schedule 3.2, n. [B]).

What does matter for purposes of the present motion is that in calculating the “price effect” and the “additional price erosion damages” for each year from 2006 through 2010, Bero

annually increases the price Sloan would charge [REDACTED] and opines that, notwithstanding these annual price increases, Sloan would have made every sale that Zurn made – [REDACTED]

[REDACTED]
[REDACTED]³ (Exh. A, p. 60-

61; Exh. C, pp. 19-20, 49, and 61). Rather than conduct a scientific study of price elasticity to support this opinion, Bero, who is not an economist, relies on Sloan's plumbing expert, Julius Ballanco, who opines, in defiance of the most basic economic principles and without any scientific study of his own, that Sloan could have sold its patented products to Zurn's [REDACTED]
[REDACTED] customers at significantly higher prices without any decrease in the quantities sold. (*Id.*; Exh. E, at 45).

III. ARGUMENT

A. The Legal Standard.

As the party offering Bero's expert testimony, Sloan bears the burden of satisfying the Rule 702 standard and establishing the admissibility of Bero's opinions. *Lewis v. CITGO Petroleum Corp.*, 561 F.3d 698, 705 (7th Cir. 2009). To discharge this burden, Sloan must prove that Bero's opinions are based upon sufficient facts or data, his methodology is reliable, and that he reliably applied his methodology to the facts of the case. Fed. R. Evid. 703.

As gatekeeper, the Court must determine that Bero's methodology is sound, and whether he properly applied the methodology to the facts of the case. *Apple, Inc. v. Motorola, Inc.*, No. 1:11-CV-08540, 2012 WL 1959560 * 2 (N.D. Ill. May 22, 2012) (J. Posner, sitting by

³ To determine the starting price for purposes of his analysis, Bero relies on a single e-mail referencing the price Sloan intended to charge for its patented products – [REDACTED]

[REDACTED] (Exh. D.).

designation)⁴; *see also*, Fed. R. Evid. 702(c) and (d). Importantly, “[a]ny step that renders the analysis unreliable renders the expert’s testimony inadmissible. This is true whether the step completely changes a reliable methodology or merely misapplies that methodology.” *Apple, Inc.*, 2012 WL 1959560 at *2 (quoting *In re Paoli R.R. Yard PCB Litigation*, 35 F.3d 717, 745 (3d Cir. 1994)). The Court cannot permit Bero to testify unless Sloan proves that Bero in fact adopted a reliable methodology and properly applied his methodology to the facts. It is not enough to show that Bero came close to getting the methodology he purported to apply right, a lower burden which Sloan still cannot meet. *Apple, Inc.*, 2012 WL 1959560 at *2.

B. Bero Fails to Limit His Per-Unit Royalty Rate to the Value Attributable to the Patented Invention.

In calculating the lost profits that make up his per-unit royalty, Bero makes no effort to apportion the profits earned on the Accused Sale between the patented and unpatented features of the products at issue, and instead seeks to award Sloan the full value of Sloan’s total lost profits per Accused Sale. (Exh. A, Table 10, Schedule 5.0). This failure to apportion renders his analysis flawed as a matter of law.

Where, as here, an accused product includes both patented and unpatented features, “the patentee ... *must* in every case give evidence tending to separate or *apportion* the defendant’s profits and the patentee’s damages between the patented feature and the unpatented features, and such evidence must be reliable and tangible, and not conjectural or speculative.” *Uniloc USA, Inc. v. Microsoft Corp.*, 632 F.3d 1292, 1318 (Fed. Cir. 2011) (quoting *Garretson v. Clark*, 111 U.S. 120, 121, 4 S. Ct. 291, 28 L. Ed. 371 (1884)). This rule exists to prevent a jury from awarding damages in excess of the value of the patent’s contributions to the art. As the Supreme Court held in *Garretson*:

⁴ Copies of cited authorities only published on electronic databases are attached hereto as Exhibit K.

When a patent is for an improvement, and not for an entirely new machine or contrivance, the patentee must show in what particulars his improvement has added to the usefulness of the machine or contrivance. He must separate its results distinctly from those of the other parts, so that the benefits derived from it may be distinctly seen and appreciated.

111 U.S. at 121.

The rule applies whether the patentee seeks damages based on lost profits or a reasonable royalty. *See Uniloc USA, Inc.*, 632 F.3d at 1315 (enforcing apportionment rule in reasonable royalty context). And, it applies even if the reasonable royalty is calculated on a per-unit basis. *Lucent Technologies, Inc. v. Microsoft Corp.*, 07-CV-2000 H CAB, 2011 WL 2728317 (S.D. Cal. July 13, 2011) (rejecting patentee's attempt to avoid apportionment by calculating damages on per-unit basis).

It is undisputed that each of Sloan's patented products and the Accused Products includes features that are not covered by the '635 Patent. (Exh. C, pp. 7-8, 15, and 21-23). Most obviously, "packages" include toilets and related accessories. *Id.* Bero was obligated to attribute some portion of the profits earned on the accused package sales to these non-infringing components before calculating his royalty rate. He refused to do so and, instead, opines that Sloan is entitled to a royalty that is equivalent to the full profits lost on the sale.

Further, Bero was also obligated to apportion profits earned on MDF valve sales between the patented and unpatented *features* of the product. Bero admits that the patented invention is

[REDACTED]
[REDACTED] (Exh. B, 88:15-89:5). Bero further admits that products like the MDF valve that practice the patented invention [REDACTED]

[REDACTED] *Id.* Accordingly, as the Supreme Court explained in *Garretson*, the rule of apportionment required Bero to calculate and limit his reasonably royalty

to the portion of the total profits on sales of MDF valves that is properly attributable to the value of [REDACTED]

[REDACTED] *Garretson*, 111 U.S. at 121.

It would not have been hard for Bero to honor this obligation. All he had to do was calculate how much more a consumer is willing to pay for an MDF valve than for a manual single flush valve. The price difference, or premium paid for the product that practices the patented invention, is evidence of the actual value attributable to the patent. Here, that premium is approximately [REDACTED]

[REDACTED] (Exh. A, p. 14).

Because Bero fails to perform this required step, and instead calculates his royalty to include the full profits Sloan or Zurn earned on each Accused Sale, Bero's royalty rate is inadmissible. *See, Apple, Inc.*, 2012 WL 1959560 at *7 (excluding expert testimony because expert failed to apportion value between patented and unpatented features).

C. Bero Fails to Present Any of the Detailed Economic Evidence Required to Invoke “the Entire Market Value Rule.”

There is only one exception to rule requiring apportionment. The exception – known as the Entire Market Value Rule (EMV Rule) – applies if the patentee proves that “the patented feature creates *the* basis for customer demand,” i.e., “the entire value of the whole machine, as a marketable article, is properly and legally attributable to the patented feature.” *Uniloc USA, Inc.*, 632 F.3d at 1318 (emphasis added).

Bero opines that this exception applies here, and intends to testify that the invention disclosed in the ‘635 Patent is *the* basis for consumer demand for the patented and Accused Products. (Exh. A, p. 13; Exh. C, pp. 43-44). Bero intends to testify that customers do *not* buy MDF valves for reasons unrelated to the patent, [REDACTED]

[REDACTED]

[REDACTED] To support this opinion, Bero notes that customers who purchased the Accused Products [REDACTED]

[REDACTED] (Exh. A, p. 14). Bero simply assumes [REDACTED]

[REDACTED]

[REDACTED] (*See id.*)

Because the evidence Bero relies on is insufficient as a matter of law to support invoking the EMV Rule, Bero’s opinion and testimony should be excluded. The EMV Rule exception to the apportionment requirement is narrow. Patent owners who assert the EMV Rule must prove by an “exacting standard” that the patented feature is *the* basis for customer demand, not simply a substantial basis for demand: “It is not enough to present evidence that the patented feature was desirable, or that it played some role – even a substantial role – in the customer’s decision to purchase a system containing the infringing product.” *Inventio Ag v. Otis Elevator Co.*, 06 Civ. 5377(CM), 2011 WL 3359705 *4 (S.D.N.Y. June 23, 2011); *LaserDynamics, Inc. v. Quanta Computer, Inc.*, 694 F.3d 51, 69 (Fed. Cir. 2012) (“It is not enough to merely show that the discrimination method is viewed as valuable, important, or even essential to the use of the laptop computer.”) The patented feature “must be of such paramount importance that it substantially created the value of the component parts – thereby making it ‘*the* basis for customer demand.’” *Inventio*, 2011 WL 3359705 at *6.

The EMV Rule will *not* apply if “other features of a product contributed to the customer’s decision.” *Id.* at *4. In such cases, “Supreme Court precedent … demands that there be an apportionment of the defendant’s profits and the patentee’s damages between the patented feature and the various unpatented features of the ‘whole machine.’” *Id.* Put differently, where

customer demand is idiosyncratic, or customer buying decisions are influenced by factors such as price, reliability, brand-name, service, convenience, or personal relationships with the distributor, the patentee must apportion. *Id.*; *see also Cornell Univ. v. Hewlett-Packard Co.*, 01-CV-1974, 2008 WL 2222189, *2-3 (N.D.N.Y. May 27, 2008) (Rader, C.J. sitting by designation); *IP Innovation L.L.C. v. Red Hat, Inc.*, 705 F. Supp. 2d 687, 690 (E.D. Tex. 2010) (Rader, C.J. sitting by designation).

Not only is the EMV Rule exacting, the evidentiary burden is great. Patentees must prove the basis for customer demand through econometric studies, admissible customer surveys, regression analyses, or other fact-based evidence of demand sensitivities. *LaserDynamics, Inc.*, 694 F.3d at 69; *Inventio*, 2011 WL 3359705 *4; *Cornell University*, 2008 WL 2222189, at *2-3; *IP Innovation L.L.C.*, 705 F. Supp. 2d at 690. Opinions from self-proclaimed experts, without real factual support, are not admissible. *Cornell University*, 2008 WL 2222189, at *3; *IP Innovation L.L.C.*, 705 F. Supp. 2d at 690.

Evidence that there purportedly is no substitute for the patented feature is also insufficient. If customers do not care about the patented feature, or do not care as much about the patented feature as they care about other factors (e.g., that the MDF valve accomplishes the job of evacuating the toilet bowl) or features (e.g., that the MDF valve is sold with an antimicrobial handle), no substitute is necessary – they will go on purchasing MDF valves and handles whether or not they include the claimed invention. *See LaserDynamics, Inc.*, 694 F.3d at 69 (noting that “proof that consumers would not want a laptop computer without [various] features is not tantamount to proof that any one of those features alone drives the market for laptop computers”); *Grain Processing Corp. v. Am. Maize-Products, Co.*, 185 F.3d 1341, 1348, 1354 (Fed. Cir. 1999) (noting that where there is no “economically significant demand for a

product having all of the claimed attributes" there exist acceptable, non-infringing alternatives, including alternatives that simply omit the irrelevant elements).

Bero admits that [REDACTED] . (Exh. B, 235:11-19). He did not even attempt [REDACTED] . (*Id.* at 99:3-9). As a result, he does not know why customers purchase the Accused Products. It follows that Bero cannot opine that the patented feature is *the* basis for demand.

Of course, Bero cannot substitute his say-so for the missing scientific evidence; but even if he could, Bero lacks the foundation to fill the evidentiary gap created by his failure to conduct any analysis of demand sensitivities. Bero is a CPA by training, is not an economist, not an expert in the plumbing business, not an expert in consumer behavior generally, and has no experience whatsoever in assessing the behavior and desires of plumbing fixture customers.

Those that do have at least some relevant experience admit that customers purchase toilet valves, and MDF valves specifically, [REDACTED] [REDACTED]

[REDACTED]
[REDACTED]

(Exh. F, 27:12-47:11; Exh. G, 26:17-33:3). John Aykroyd, Sloan's Vice President of Business Development, and 30(b)(6) designee testified:

[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

(Exh. H, 37:4-23.) Bero has no basis for rejecting such compelling testimony from Sloan's own witnesses.⁵ For this reason alone he should be excluded:

An expert witness must provide reasons for rejecting alternative hypotheses using scientific methods and procedures and the elimination of these hypotheses must be founded on more than subjective beliefs and unsupported speculation, as an aspect of his more general duty to be as careful in his litigation work as he would be in his regular professional work outside his paid litigation consulting.

Apple, Inc., 2012 WL 1959560 at *8 (internal quotes and citations omitted).

Because Bero fails to establish that the EMVR applies, Bero was obligated to "give evidence tending to separate or apportion the defendant's profits and the patentee's damages between the patented feature and the unpatented features, and such evidence must be reliable and tangible, and not conjectural or speculative." *Uniloc*, 632 F.3d at 1318; *Apple, Inc.*, 2012 WL 1959560 at *6. Bero failed to do so. His testimony should be excluded.

D. Bero Improperly Includes Lost Profits Attributable to Unpatented Collateral Goods in his Per-Unit Royalty Rate.

Bero's failure to apportion is fatal to the admissibility of his opinions for the reasons identified above. But, worse, is Bero's decision to include in his per-unit royalty the full,

⁵ The Accused Products are also available with the admittedly important, unpatented antimicrobial handle. (Exh. B, 125:22-127:8).

unapportioned lost profits associated with collateral sales of unpatented goods. The lost profits on these goods alone account for fully [REDACTED]

Sloan's lawyers asked Bero to calculate damages based on a reasonable royalty, and not lost profits. (Exh. B, 65:7-67:19). Bero admits that the lawyers likely did so [REDACTED]

[REDACTED] (Id. at 67:20-68:11). Bero further admits that this result is [REDACTED]

[REDACTED] (Id. at 68:12-20). However, because the legal rules regarding lost profits restrict the patentee's ability to include within its damage calculations profits on collateral goods (in addition to requiring evidence that there are no non-infringing alternatives), Sloan's lawyers preferred that Bero stick to the reasonable royalty analysis. (Id. at 73:12-77:20)

Bero followed orders, and once committed to a reasonable royalty analysis, he decided to work back in the excluded lost profits on unpatented collateral goods by assuming [REDACTED]

[REDACTED] (Exh. C, pp. 46-48,

Table 10; Exh. A, Schedule 5.0).

Bero claims that by this slight-of-hand – dressing the lost profits calculations up as a reasonable royalty figure – he avoids the restrictions that otherwise apply to limit inclusion of lost profits on collateral sales. (Exh. A, Report 11-13). For support, he relies on one of the sanctioned *Georgia Pacific* factors often considered in connection with the hypothetical negotiation: “the effect of selling the patented specialty in promoting sales of other products of

the licensee; the existing value of the invention to the licensor as a generator of sales of his non-patented items; and the extent of such derivative or convoyed sales.” *Georgia-Pacific*, 318 F. Supp. at 1120. (Exh. C, p. 46).

Bero is wrong. First, the collateral, or “convoyed” sales at issue in the *Georgia-Pacific* factor in question – Factor 6 – must occur simultaneously with the sale of the Accused or patented product, not before or after.⁶ *Carborundum Co. v. Molten Metal Equip. Innovations, Inc.*, 72 F.3d 872, 881 n.8 (Fed. Cir. 1995) (“The expression ‘convoyed sales’ should preferably be limited to sales made simultaneously with a basic item.”); *Inline Connection Corp. v. AOL Time Warner Inc.*, 470 F. Supp. 2d 424, 432-33 (D. Del. 2007). Bero admits that [REDACTED]

(Exh. B, 166:5-167:7 and 172:11-176:10) and Sloan’s own witnesses admit that [REDACTED]

[REDACTED].⁷ As a result, Bero cannot include lost profits on [REDACTED] under Factor 6 in calculating his per-unit royalty.

Second, for a sale to count as a “convoyed sale” under Factor 6, the sale of the product that incorporates the patented invention must cause the sale of the collateral good, and not the other way around. *Inline Connection Corp.*, 470 F. Supp. 2d at 432-33 (“Convoyed sales occur when the sale of one thing is likely to cause the sale of another.”) As explained in the preceding section regarding the EMV Rule, Bero failed to perform [REDACTED]

[REDACTED] (Exh. B, 235:11-19). Accordingly, he has no reliable data showing whether [REDACTED]

⁶ The other type of collateral sales at issue in Factor 6 – “derivative” sales – are limited to replacement, spare and wear parts. *See Carborundum Co.*, 72 F.3d at 881 n.8.

⁷ Again, Bero does not rely on actual sales figures to quantify collateral sales – instead, he relies on the Quest survey data (generally consisting of visual inspections of installed fixtures in bathrooms), which Bero and other Sloan witnesses admit [REDACTED] (See, e.g., Exh. E, 210:2-5 [REDACTED]

[REDACTED] Exh. F, 56:11-57:6; 97:3-101:8; and 133:6-134:15).

[REDACTED]
[REDACTED] (*Id.* at 99:3-9 and 184:6-187:18). What little evidence exists strongly suggests that there is no causal link. [REDACTED]

[REDACTED]
[REDACTED] (Exh. I, 90:20-92:24) [REDACTED]
[REDACTED] It follows that Bero cannot include lost profits on [REDACTED]
[REDACTED] under Factor 6 in calculating his per-unit royalty.

Finally, as Chief Judge Randall Rader of the Federal Circuit has confirmed, a patentee can only include profits earned on sales of both infringing and non-infringing collateral products in its royalty calculations if the patentee satisfies the EMV Rule, and further proves that the infringing and non-infringing products constitute a “functional unit”:

The entire market value rule in the context of royalties requires adequate proof of three conditions: (1) the infringing components must be the basis for customer demand for the entire machine including the parts beyond the claimed invention; (2) the individual infringing and non-infringing components must be sold together so that they constitute a *functional unit* or are parts of a complete machine or single assembly of parts; and (3) the individual infringing and non-infringing components must be analogous to a *single functioning unit*. *It is not enough that the infringing and non-infringing parts are sold together for mere business advantage.* Notably, these requirements are additive, not alternative ways to demonstrate eligibility for application of the entire market value rule.

Cornell Univ. v. Hewlett-Packard Co., 609 F. Supp. 2d 279, 286-87 (N.D.N.Y. 2009) *amended*, 01-CV-1974, 2009 WL 1405208 (N.D.N.Y. May 15, 2009) (citations omitted). These are the same conditions that apply where the patentee seeks to prove lost profit damages (as Bero did), instead of a reasonable royalty (as Bero claims he did). *See, Rite-Hite Corp. v. Kelley Co., Inc.*, 56 F.3d 1538, 1550 (Fed. Cir. 1995). The law is not as easily fooled as Bero thinks it is.

Bero concedes, as he must, that [REDACTED]

[REDACTED] . (Exh.

B, 73:23-77:20). Likewise, [REDACTED] do not constitute a functional unit. As a result, Bero could not include lost profits on collateral sales even if he had set out to satisfy, and satisfied the first condition of the EMV Rule – that the infringing features are *the* basis for customer demand for the Accused Products.

Whether Bero was entitled to nudge his reasonable royalty rate up or down to account – *qualitatively* – for Sloan’s expectation of additional collateral sales in negotiating a license with Zurn, the law unambiguously prohibits using convoyed sales under Factor 6 to *quantitatively* calculate the royalty rate, unless the patentee can satisfy the EMV Rule. *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co Ltd.*, CIV. A. 88-1814-MA, 1993 WL 1510657 (D. Mass. Apr. 27, 1993) (“[Convoyed sales] do not create a separate sum on which the royalty is calculated.”). This is so whether Bero adds the collateral sales profits to a royalty base against which he applies a running royalty percentage (the more common royalty calculation), or includes the lost profits on collateral sales in his per-unit royalty rate (a “rate” he has calculated to include the lost profits that would otherwise compose the royalty base). Again, the rule in calculating patent damages is that the patentee must apportion profits between patented and unpatented features. *Uniloc*, 632 F.3d at 1318. The only time the patentee is entitled to collect the “entire market value,” i.e., *any* lost profits on unpatented features is if the patentee satisfies the EMV Rule *and* the functional unit test. *Cornell Univ.*, 609 F. Supp. 2d at 286-87.

E. Bero Arbitrarily [REDACTED] the Maximum Zurn Would Pay and the Minimum Sloan Would Accept for a License.

Bero’s methodology [REDACTED]

[REDACTED] is not based on any facts – he simply has to force a compromise to remain

consistent with the hypothetical negotiation framework, and the bargaining positions he has created leave no room to do so other than by arbitrarily [REDACTED]
[REDACTED] (Exh. B, 245:20-248:1).

The law is clear: It is improper for a damages expert to base his opinions and testimony on “an arbitrary, general rule, unrelated to the facts of this case.” *Uniloc USA, Inc.*, 632 F.3d at 1318 (granting new trial on damages based on the expert’s use of the 25% general rule of thumb allocating profits between patentee and accused infringer); *LaserDynamics, Inc.*, 694 F.3d at 69 (affirming grant of new trial on damages where damages expert’s testimony was based on arbitrary apportionment ratio “plucked out of thin air,” unsupported by economic analysis); *Multimedia Patent Trust v. Apple Inc.*, 10-CV-2618-H KSC, 2012 WL 5873711 (S.D. Cal. Nov. 20, 2012) (excluding expert testimony based on generic industry data that was “not tethered to the relevant facts and circumstances of the present case”); *Oracle Am., Inc. v. Google Inc.*, 798 F. Supp. 2d 1111, 1119–21 (N.D. Cal. 2011) (excluding expert testimony based on the Nash bargaining solution). Instead, evidence relevant to the calculation of a reasonable royalty “must be tied to the relevant facts and circumstances of the particular case at issue and the hypothetical negotiations that would have taken place in light of those facts and circumstances at the relevant time.” *Uniloc*, 632 F.3d at 1318.

Bero’s method fails this test. He offers no economic analysis tied to the relevant facts and circumstances of this case, these parties, or even this industry, and the hypothetical negotiation that would have taken place to justify [REDACTED] the bargaining positions he has created. (Exh. B, 245:20-248:1). As a result, his royalty opinion should be excluded.

F. Bero Fails to Present Any of the Credible Economic Evidence of Price Elasticity Required to Support Damages Based on Price Erosion.

To include either form of price erosion damages – the “price effect” Bero included in the royalty rate, or his “additional price erosion damages” – Bero was obligated, as a matter of law, to conduct a scientific analysis of price elasticity. *Crystal Semiconductor Corp. v. TriTech Microelectronics Int'l, Inc.*, 246 F.3d 1336, 1359-60 (Fed. Cir. 2001). Having made absolutely no attempt to do so, he has failed to carry Sloan’s burden and cannot testify that Sloan is entitled to either form of price erosion damages.

A patentee who seeks price erosion damages (a form of lost profits) has the burden of proving that “but for” infringement, (1) it would have sold its product at higher prices *and* (2) the quantity it would have sold at the higher prices. *Id.* at 1357. Because “[a]ll markets must respect the law of demand” according to which “consumers will almost always purchase fewer units of a product at a higher price than at a lower price, possibly substituting other products,” the patentee “must produce credible economic evidence to show the decrease in sales, if any, that would have occurred at the higher hypothetical price.” *Crystal Semiconductor Corp.*, 246 F.3d at 1359. In a candid moment, before this case, Bero said that price erosion damages are “unusual” and are “difficult to prove,” as indeed they are under the Federal Circuit’s exacting standard. (Exh. B, 236:10-237:13).

Neither Bero, Ballanco nor any other Sloan witness, upon whom Bero might rely, can satisfy this burden based simply on their subjective belief that Sloan could have sold its patented products to Zurn’s [REDACTED] customers⁸ at significantly higher prices without affecting consumer demand (*see* Exh. C, pp. 19-20 and 61) – Bero has to prove as much with sound economic evidence. *Crystal Semiconductor*, 246 F.3d at 1359. The Federal Circuit does

⁸ (Exh. I, 110:23-111:8 ([REDACTED]); Exh. J, 76:9-77:12 [REDACTED] [REDACTED])

not mince words on the subject: “In a credible economic analysis, the patentee cannot show entitlement to a higher price divorced from the effect of that higher price on demand for the product. In other words, the patentee must also present evidence of the (presumably reduced) amount of product the patentee would have sold at the higher price.” *Id.* at 1357. Because Bero failed to present any such evidence, his opinions should be excluded (all of his opinions, including his per-unit royalty opinion because his royalty rate is based on the “price effect” calculations).

G. Bero Opines that Sloan Is Entitled to Lost Profits During the Provisional Rights Period in Direct Contravention of 35 U.S.C. § 154(d)(1).

Finally, Bero opines that Sloan is entitled to damages for sales Zurn made during the “provisional rights” period, before the ‘635 Patent issued. Bero sets his hypothetical negotiation in October 2006 (when Zurn first became aware of the ‘729 Patent Application), calculates his royalty rate, and then applies the royalty to pre-issuance sales from October 2006 through October 2009 (when the patent issued) in calculating Sloan’s damages. By law, he cannot do so.

35 U.S.C. § 154(d)(1) – the statute that authorizes recovery of pre-issuance, provisional remedies – exclusively limits the remedies available to a royalty, barring lost profits and price erosion theories of recovery: “a patent shall include the right to obtain a reasonable *royalty* from any person who, during the period beginning on the date of publication of the application for such patent . . . , and ending on the date the patent is issued . . . makes, uses, offers for sale, or sells in the United States the invention as claimed in the published patent application” The statute does not authorize broader lost profits damages available under 35 U.S.C. § 284 (authorizing the award of “damages adequate to compensate for the infringement, but in no event less than a reasonable royalty . . . ”).

Bero's damage calculations fail to honor the statutory limitation, and affirmatively seek to compensate Sloan for profits lost during the provisional period in the form of the [REDACTED]
[REDACTED]
[REDACTED] (Exh. C, p. 4, Table 1; Exh. A, p. 4, Table 1). Bero concedes [REDACTED] (Exh. B, 69:5-13) and that his [REDACTED]
[REDACTED] (*Id.* at 79:18-23). He even acknowledges that [REDACTED] (*Id.* at 83:7-14). But, he hopes to avoid the consequences of the statutory limitation on remedies by calling [REDACTED] For obvious reasons, relabeling damages he admits are [REDACTED]
does not change the result. The "price effect" component of Bero's analysis is a form of lost profits, which are not recoverable under 35 U.S.C. § 154(d)(1). Bero's opinion and testimony on pre-issuance damages should be excluded.

IV. CONCLUSION

The Federal Circuit has admonished patentees seeking a reasonable royalty based on a hypothetical negotiation, stating "[t]o prevent the hypothetical from lapsing into pure speculation, this court requires sound economic proof of the nature of the market and likely outcomes with infringement factored out of the economic picture." *Grain Processing Corp. v. American Maize-Products Co.*, 185 F.3d 1341, 1350 (Fed. Cir. 1999). Because Bero fails to supply the required sound economic proof, and otherwise violates the well-established rules identified above, his testimony should be excluded.

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Respectfully submitted,

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